

REMARKS

Claim 13 has been amended to include the subject matter of claim 1. Dependent claim 17 has been added to include the subject matter canceled from claim 12. Applicant has amended claims 1, 4-5, 12 and 16. Support for the amendments can be found throughout the specification, for example, at page 4, lines 23-24. No new matter has been added. Claims 1-13 and 16-17 are pending.

Restriction Requirement

The Examiner has identified two groups of claims drawn to distinct inventions: Group I, consisting of claims 1-12 and 16, and Group II, consisting of claims 13-15. In a September 27, 2004 telephone conversation with the Examiner, Applicant responded to the restriction requirement by offering a provisional election of Group I, claims 1-12 and 16. Applicant affirms the election of Group I, claims 1-12 and 16, with traverse. Claim 13 has been amended to include the subject matter of claim 1. As such, Applicant respectfully requests that claims 13-15 be rejoined with Group I.

Rejections under 35 U.S.C. § 112

The Examiner has rejected claims 5 and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Specifically, the Examiner asserted claim 5 as indefinite because of the wording "substantially," and claim 12 as indefinite because of the wording "preferably" in connection with a hardness value. While Applicant does not agree that the terms are indefinite, Applicant has amended claims 5 and 12 to overcome this rejection in order to advance prosecution. Applicant respectfully requests reconsideration and withdrawal of this rejection.

Rejections under 35 U.S.C. § 103

Yokoyama

Claims 1-8 and 16 have been rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,375,763 to Yokoyama et al. ("Yokoyama"). See page 4 of the Office Action. Applicant respectfully disagrees.

Applicant has discovered a composition that includes the addition of copper (Cu) and nickel (Ni) in combination with other elements. Independent claims 1, 4 and 16 are directed to specific constitutions of the invented composition. Specifically, Applicant's claim 1 recites a composition which includes 0.5 - 3.5% C, 0.2 - 0.8% Si, 0.5 - 1.5% Mn, 0.1 - 2.0% Ni, 1.0 - 3.0% Cr, 0.1 - 0.5% Mo, and 0.1 - 2.0% Cu, balance Fe, aside from elements in trace quantities; Applicant's claim 4 recites a composition which includes 0.5 - 3.5% C, 0.2 - 0.8% Si, 0.5 - 1.5% Mn, 0.1 - 2.0% Ni, 1.0 - 3.0% Cr, 0.1 - 0.5% Mo, 0.1 - 2.0% Cu, balance Fe, aside from elements in trace quantities; and Applicant's claim 16 recites a composition which includes 0.8 - 0.85% C, 0.42 - 0.48% Si, 0.85 - 0.95% Mn, 0.32 - 0.38% Ni, 2.05 - 2.25% Cr, 0.30 - 0.37% Mo, 0.32 - 0.38% Cu, balance Fe, aside from elements in trace quantities.

Yokoyama discloses a pearlitic steel railroad rail having a composition that includes the element Niobium (Nb). See Yokoyama col. 1, ll. 48-50. Additionally, Yokoyama specifically limits the weight percent of Cu and Ni to less than 1% each. See Yokoyama col. 2, ll. 42-56. Yokoyama requires an element (Nb) to improve wear resistance that is not recited by any of claims 1, 4 or 16. Yokoyama fails to teach or suggest the combination of C, Si, Mn, Ni, Cr, Mo, Cu and Fe of claims 1, 4 or 16. Yokoyama serves to teach away from the composition of claims 1, 4 and 16. Because the Examiner has not provided any motivation to alter the composition of Yokoyama to that of claims 1, 4 or 16, and because Yokoyama itself does not teach or suggest the composition recited in claims 1, 4 or 16, for at least these reasons, claims 1, 4 and 16 are nonobvious over Yokoyama. Accordingly, independent claims 1, 4 and 16, and claims 2-3 and 5-8 that depend therefrom, are patentable over Yokoyama. Applicant respectfully requests reconsideration and withdrawal of this rejection.

JP 2001059128

Claims 1-4, 6-8, 12 and 16 have been rejected under 35 U.S.C. § 103(a) as being obvious over JP 2001059128. See page 4 of the Office Action. Applicant respectfully disagrees.

JP 2001059128 is directed to a fatigue resistant steel material having a composition that includes the elements nitrogen (N), oxygen (O), phosphorous (P), sulfur (S), and acid-soluble aluminum (Al). JP 2001059128 requires several elements (N, O, P, S, and acid-soluble Al) that are not recited by any of claims 1, 4 or 16. Indeed, JP 2001059128 serves to teach away from the composition of claims 1, 4 and 16. Because the Examiner has not provided any motivation to alter the composition of JP 2001059128 to that of claims 1, 4 or 16, and because JP 2001059128 itself does not teach or suggest the composition recited in claims 1, 4 or 16, for at least these reasons, claims 1, 4 or 16 are nonobvious over JP 2001059128. Accordingly, independent claims 1, 4 and 16, and claims 2-3, 6-8, and 12 that depend therefrom, are patentable over JP 2001059128. Applicant respectfully requests reconsideration and withdrawal of this rejection.

Watari

Claims 1-5, 8 and 16 have been rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,922,145 to Watari et al. ("Watari"). See page 5 of the Office Action. Applicant respectfully disagrees.

Watari is directed to steel products having improved machinability and having a composition that includes the elements phosphorous (P), sulfur (S), aluminum (Al), vanadium (V), and niobium (Nb). Watari requires several elements (P, S, Al, V, and Nb) that are not recited by any of claims 1, 4 or 16. As such, Watari serves to teach away from Applicant's invention. Because the Examiner has not provided any motivation to alter the composition of Watari to that of claims 1, 4 or 16, and because Watari itself does not teach or suggest the composition recited in claims 1, 4 or 16, for at least these reasons, claims 1, 4 and 16 are nonobvious over Watari. Accordingly, independent claims 1, 4 and 16, and claims 2-3, 5, and 8 that depend therefrom, are patentable over Watari. Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 9-11 have been rejected under 35 U.S.C. § 103(a) as being obvious over Yokoyama or Watari in further in view of Applicant's disclosure on page 1, lines 9-29. See pages 5-6 of the Office Action. Applicant respectfully disagrees.

Claims 9-11 depend from claim 4. As discussed above, independent claim 4 is allowable over Yokoyama and Watari. Applicant's background discussion presented on page 1 of the specification does not add any teaching or suggestion to the deficiencies of Yokoyama or Watari, either alone or in combination, to render claim 4 obvious. Neither Yokoyama nor Watari teach or suggest the combination of C, Si, Mn, Ni, Cr, Mo, Cu and Fe of claim 4. Thus, independent claim 4, and claims 9-11 that depend therefrom, are patentable over Yokoyama or Watari in view of Applicant's discussion appearing on page 1 of the specification. Applicant respectfully requests reconsideration and withdrawal of this rejection.

CN 1278563, JP 2001294972, JP 2002161334, CN 1360082, or JP 2002275584

Claims 1-4, 8 and 16 have been rejected under 35 U.S.C. § 103(a) as being obvious over CN 1278563 (abstract), JP 2001294972 (abstract), JP 2002161334 (abstract), CN 1360082 (abstract), or JP 2002275584 (abstract). See pages 4-5 of the Office Action. Applicant respectfully disagrees.

CN 1278563 (abstract), JP 2001294972 (abstract), JP 2002161334 (abstract), CN 1360082 (abstract), and JP 2002275584 (abstract) (collectively, "abstracts") each disclose elements as alloying constituents that are not included in claims 1, 4 or 16. For example, some alloying constituents required by the abstracts but not required by claims 1, 4 and 16 include titanium (Ti), aluminum (Al), niobium (Nb), and vanadium (V). Thus, each of the cited abstracts teach away from Applicant's invention. Because the Examiner has not provided any motivation to alter the composition of each abstract to that of claims 1, 4 or 16, and because each abstract does not teach or suggest the composition recited in claims 1, 4 or 16, for at least these reasons, claims 1, 4 and 16 are nonobvious over the abstracts. Accordingly, independent claims 1, 4 and 16, and claims 2-3, and 8 that depend therefrom, are patentable over the abstracts. Further, in view of Applicant's identified unexpected improvement in wear resistance (see specification p. 4, ll. 26-28), the compositions disclosed by the abstracts lack sufficient

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specificity to teach or suggest Applicant's composition claimed in claims 1, 4 and 16.

Applicant respectfully requests reconsideration and withdrawal of this rejection.

CONCLUSION

Applicant asks that all claims be allowed.

A Petition For Extension Of Time is being filed concurrently herewith. Please apply any charges or credits to Deposit Account 19-4293.

Respectfully submitted,

Date: _____

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